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(56) Documents cited
GB 2207787 A GB 2204542 A GB 1492491 A
GB 1486074 A GB 1070187 A WO 85/00235 A1

(58) Field of search
UK CL (Edition J) G4H

(54) Remote control apparatus

(57) Remote control apparatus for use as vehicle tracing apparatus comprises a radio receiver (2) and associated control circuits (4). On receiving a signal the receiver (2) sends a signal (3) to the control circuitry (4) which triggers warning devices (8) and (9) and after a preset delay triggers an immobilisation device to immobilise the vehicle.

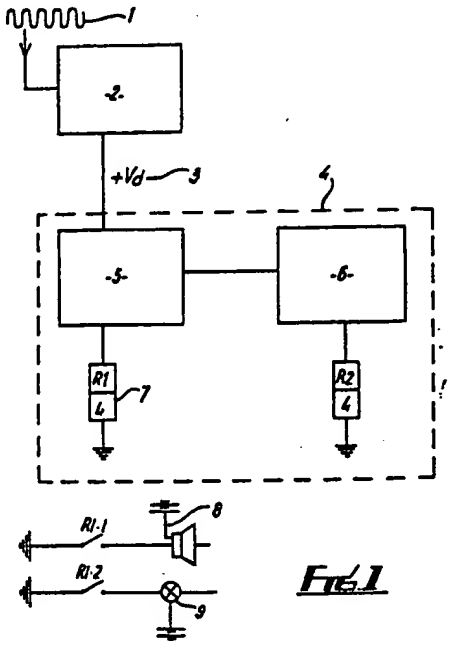

Fig.1

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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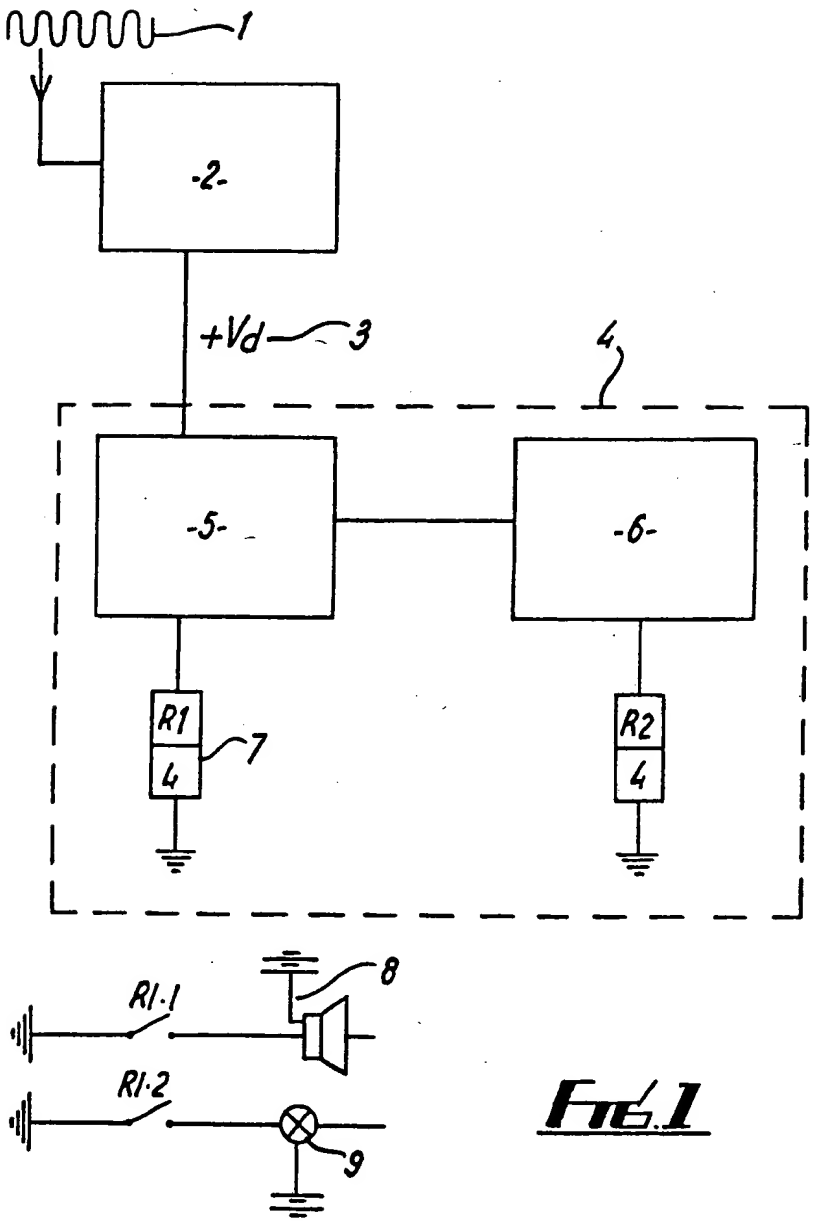

FIG.1

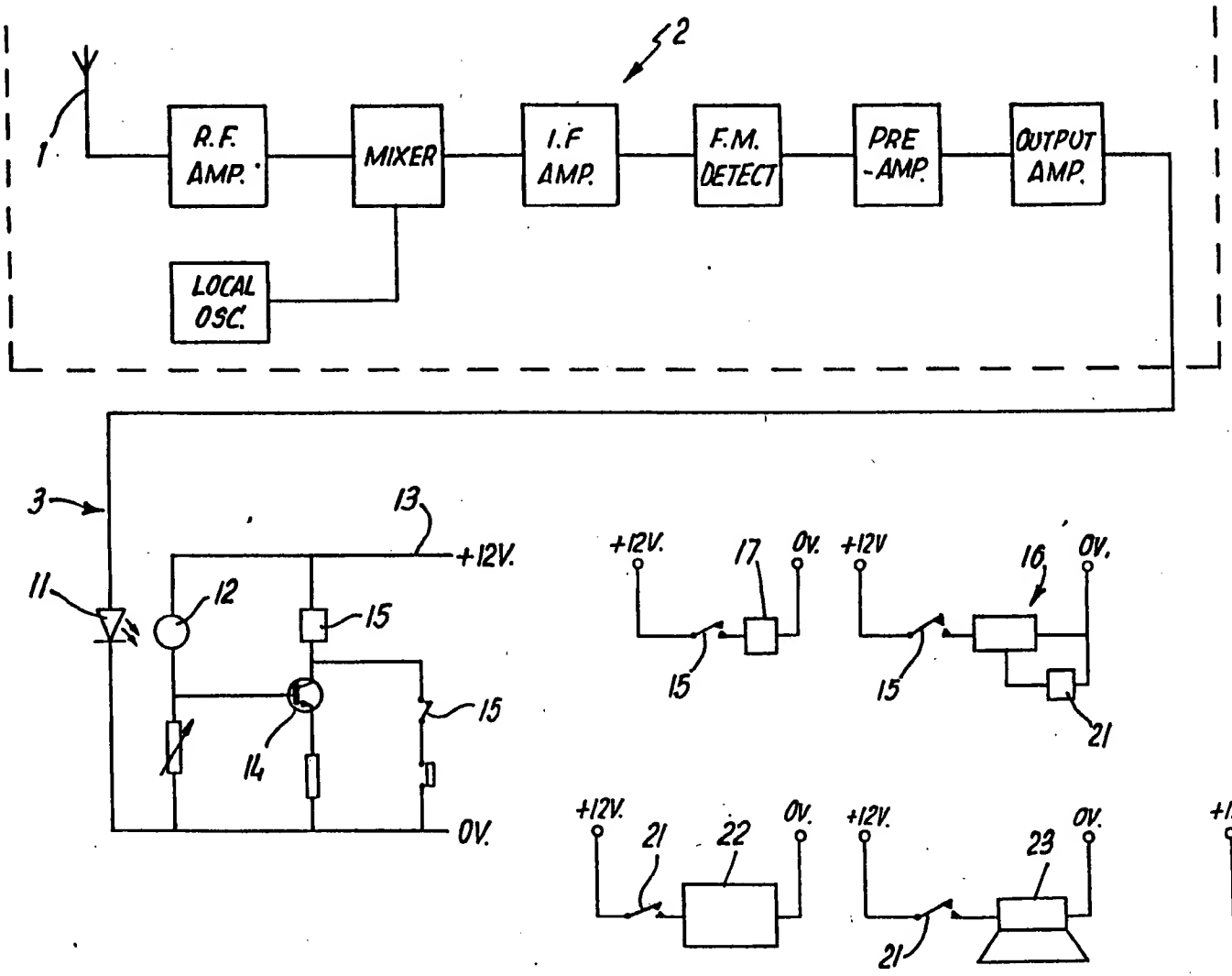

FIG.2

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"REMOTE CONTROL APPARATUS"

This invention relates to remote control apparatus especially but not exclusively for use as vehicle tracing apparatus.

Thefts of and from motor vehicles have become so commonplace that it is now customary to fit alarm systems to vehicles. In general these systems produce an audible and visible warning when a vehicle is tampered with. They may also include some means of immobilisation and some sophisticated systems have been proposed which include a radio transmitter which sets off a remote alarm to alert a vehicle user that the vehicle is being tampered with. All such systems however have the drawback that their role is in discouraging and going some way to preventing theft of a vehicle. This means that should the vehicle actually be stolen despite the alarm there is no way of influencing it thereafter.

It is an object of the present invention to obviate or mitigate this disadvantage.

According to the present invention there is provided

remote control apparatus for use as vehicle tracing apparatus comprising a radio receiver on said vehicle and control means operable by said radio receiver to activate alarm means on said vehicle.

Preferably said radio receiver is operable by a signal provided by a remote transmitter device.

Preferably also said alarm means comprises audible and/or visual warning devices.

Said audible and visual warning devices may for example be the vehicles hazard warning flashers, an interior visual display unit and a horn or siren.

Preferably also the control means further includes timer means operable after a preset delay to activate immobilisation means for the vehicle.

Said immobilisation means may be means for interrupting the ignition circuit or fuel supply of the vehicle.

The apparatus may be connectable to an external power source such as the vehicle battery or powered from an independent internal supply.

Preferably also manual reset means are provided for the apparatus.

Embodiments of the present invention will now be described by way of example with reference to the accompanying drawing in which:-

Fig 1 is a schematic block diagram of one embodiment of remote control apparatus in accordance with the present invention; and

Fit 2 is a circuit diagram of the apparatus of Fig 1.

Referring to the drawings remote control apparatus for use as vehicle tracing apparatus is illustrated. Referring first to the block diagram of Fig 1 the apparatus comprises a receiving aerial 1 which is connected to a radio receiver 2. The radio receiver 2 has an electrical output 3 which connects to control circuitry shown generally at 4.

The control circuitry 4 comprises a main switching circuit 5 and a timer circuit 6. The main switching circuit 5 when activated operates the timer circuit 6 and a series of relays 7. The relays 7 switch audible 8 and visual 9 warning devices. The timer circuit 6, operates a fourth relay 10 which controls an immobilisation circuit of the vehicle.

In use the apparatus provides means of immobilising a vehicle which has been stolen and provides an alarm which draws attention to the fact that the vehicle has been stolen. If a vehicle has been stolen the vehicle user alerts the authorities who can operate a transmitter which sends an appropriate coded signal which is received by the radio receiver 2 on the vehicle through the receiving aerial 1. The receiver 2 immediately sends an electrical signal 3 to the control ciruitry 4 and activates the main switching circuit 5. The switching circuit 5 operates the relays 7 which activate the audible warning device 8 and visual warning device 9 which alert the occupants of the vehicle that theft has been detected and draws external attention to the vehicle. The switching circuit 5 also operates the timer circuit 6 which after a preset delay operates a further relay 10 which switches an

immobilisation circuit for the vehicle. The preset delay is arranged so that the occupants of the vehicle have sufficient time to stop the vehicle safely after the initial warning before immobilisation takes effect.

A more detailed illustration of the apparatus is provided in the circuit diagram of Fig 2. The electrical output signal 3 from the receiver 2 drives a LED 11 and the light output from the LED 11 operates an optical switch 12 which is connected to a 12 volt supply 13 and operates to drive a BC 107 transistor 14. The transistor 14 in turn operates a relay 15. This relay 15 operates a timer circuit 16, switches a secondary relay 17, and has a third set of controls which hold the relay 15 on.

The secondary relay 17 has two sets of contacts, one which operates a flasher unit 18 which operates the vehicles hazard warning lights 19, and one which operates a visual display unit 20 in the vehicle which warns the occupants that the vehicle has been stolen.

The timer circuit 16 can be preset to switch after a desired time interval, for example between 5 seconds and 20 minutes. After the timer circuit 16 switches it operates a further relay 21 which has two sets of contacts. The first contacts disconnect the power supply to a fuel pump 22 and the second contacts activate a warning siren 23.

A key lock, not shown, is provided to release relay 15 and so release the other relays. The power supply 13 may be derived from the vehicle battery or from a separate power source.

The location of the vehicle could be determined using

the system also.

The apparatus described is by way of example only and various other configurations may be provided to achieve the same results. In addition the basic concept is not limited to the provision of vehicle tracing apparatus. For example the basic system can be adapted for use in an industrial or domestic environment. The system can be used to operate machinery, computers, fascimile machines and telex machines remotely at any time. In the domestic environment it can be used to operate domestic appliances such as central heating systems, cookers, lights, electric blinds etc. The system has the advantage that it removes the restrictions which surround preset timers commonly used at present and allow an operator to choose the time at which equipment is operated.

Modifications and improvements may be incorporated without departing from the scope of the invention.

CLAIMS

1. Remote control apparatus for use as vehicle tracing apparatus comprising a radio receiver on said vehicle and control means operable by said radio receiver to activate alarm means on said vehicle.

2. Remote control apparatus as claimed in Claim 1, wherein the radio receiver is operable by a signal provided by a remote transmitter device.

3. Remote control apparatus as claimed in Claim 1 or 2, wherein the alarm means comprises audible and or visual warning devices.

4. Remote control apparatus as claimed in Claim 3, wherein an audible warning device in the form of a horn or siren is provided.

5. Remote control apparatus as claimed in Claim 3, wherein the visual warning devices comprise hazard warning flashers on the vehicle and/or an interior visual display device.

6. Remote control apparatus as claimed in any one of the preceding Claims, whereon the control means further includes timer means operable after a preset delay to activate immobilisation means for the vehicle.

7. Remote control apparatus as claimed in Claim 6, wherein the immobilisation means comprises means for interrupting the fuel or ignition supply of the vehicle.

8. Remote control apparatus as claimed in any one of the preceding Claims, wherein an independent power supply is provided for the apparatus.

9. Remote control apparatus as claimed in any one of the preceding Claims, wherein manually operable reset means are provided for the apparatus.

10. Remote control apparatus substantially as hereinbefore described, with reference to and as shown in the accompanying drawings.

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